

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application.

COMPLETE LISTING OF THE CLAIMS:

Claims 1-4 : (Canceled)

Claim 5 : (Original) A system for electro-optically determining motion parameters of a moving target, comprising:

a) a stationary starting platform for supporting the target prior to target movement;

b) an assembly including a light emitting diode pulsed by electrical transmit signals and operative for directing outgoing light to the target for reflection therefrom, and a photodiode having a field of view and operative for detecting incoming light reflected from the target and for generating electrical receive pulses, the assembly defining a reference plane located in and extending along the field of view, the platform being spaced at a known, predetermined spacing from the reference plane;

c) means for determining a difference in arrival times of the transmit and receive pulses, and for determining a distance to the target at the reference plane as a function of the difference in the arrival times; and

d) means for ascertaining a direction of the target relative to the reference plane as a function of said spacing and said distance.

Claim 6 : (Original) The system of claim 5, wherein the ascertaining means includes ascertaining a velocity of the target by consideration of the time taken for a given dimension of the target to pass through the field of view.

Claim 7 : (Original) The system of claim 5, and further comprising a reflector on the target for reflecting light to the photodiode.

Claim 8 : (Original) The system of claim 7, wherein the assembly includes a plurality of light emitting diodes and a plurality of photodiodes arranged in groups, each group being comprised of one light emitting diode and two photodiodes, a first photodiode in each group being operative for detecting reflections from the target, and a second photodiode in each group being operative for detecting reflections from the reflector, and wherein the transmit signals for the light emitting diodes in the groups are spaced timewise apart.